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(54) Title: **METHOD AND APPARATUS FOR LOGGING A WELL USING FIBER OPTICS**

(57) Abstract: The invention is a system and method to log a wellbore, comprising a logging tool including a downhole power source to power the data transmission and logging tool, the logging tool adapted to be deployed in a wellbore environment, the logging tool taking at least one measurement of the wellbore environment, a fiber optic line in optical communication with the logging tool, and the logging tool transmitting the measurements on a real time basis through the fiber optic line to surface and converting the data at surface back into electrical data and processing the data at surface into a real time display of the data. In one embodiment, a continuous tube with one end at the earth's surface and the other end in the wellbore is attached to the logging tool and includes the fiber optic line disposed therein.

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